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Anderson Lane Station: Redevelopment Scenarios and Regulation Recommendations for Austin's Neighborhood Centers

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Anderson Lane Station: Redevelopment Scenarios and Regulation Recommendations for Austin's Neighborhood Centers

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Abstract

Anderson Lane Station: Redevelopment Scenarios and Regulation Recommendations for Austin's Neighborhood Centers

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Imagine Austin lays out a vision for future planning efforts in Austin. The Growth Concept Map is a major component of the plan which identifies activity centers and corridors as areas with higher densities and a greater variety of uses. A recent dispute over the redevelopment of an office park has called into question the form and purpose of the smallest activity center, the neighborhood center.

Reviewing *Imagine Austin* and similar comprehensive plan from other cities provides insight as to the form and function of neighborhood centers. Anderson Lane Station Neighborhood Center possesses many qualities of a neighborhood center including commercial uses that serve the surrounding neighborhood, pedestrian, bicycle and transit connections to other parts of the city, and a variety of housing types. However, there is a lack of exclusively rental multi-family housing, mixed use buildings, and a central gathering space. Street connectivity could also be improved to support transportation modes other than the car.

Austin is currently in the process of rewriting the land development code, which will apply form based code to activity centers and corridors. Redevelopment under form based code will provide for a better pedestrian environment and allow mixed used projects. Using Envision Tomorrow to test the feasibility of redevelopment at Anderson Lane Station, the same financial inputs were applied to two different scenarios. The difference between these scenarios is the inclusion of structured parking which allows for higher density under current parking regulations.

Cost of land acquisition has a major impact on development feasibility. The models performed best for parcels where the land is valued higher than the structures on the parcel. Parking requirements also drive up the cost of development by both limiting usable square footage and adding to physical construction costs. The high cost of structured parking can also be a barrier to increasing density. New regulations embedded in the land development code should be directed at achieving the goals of *Imagine Austin* through (1) shaping the built environment and (2) reducing the cost of development in order to make future redevelopment possible.

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Chapter I: Introduction

The City of Austin developed its comprehensive plan, *Imagine Austin*, at a time when the region's rapid economic and population growth was exposing some of the negative effects of growth. From traffic congestion to rising housing prices, these issues were and continued to be deeply felt by existing and new residents. The plan received criticism for favoring incoming residents over current residents, and not protecting low income residents. Another concern included how existing neighborhood plans would be acknowledged in relation to *Imagine Austin* (Smith).These criticisms and concerns reveal the inherent tension most redevelopment faces in balancing the needs of existing residents and commercial tenants against those benefitting from new development. The Growth Concept Map included in the comprehensive plan attempts to address this tension by identifying areas for targeting growth. This would require identified activity centers to add density; however the feasibility of this has been called into question. Melissa Nesslund, a professional planner, stated that "if developers can't get leeway in development codes, then Austin will not achieve true density in its future" (Lyon). While there is skepticism that Austin can absorb growth in activity centers, the comprehensive plan looks at this issue very broadly on a citywide scale.

CodeNEXT is the ongoing process of rewriting the land development code and a chance to look at the implementation of *Imagine Austin* more specifically. This is an opportunity for the city to look at the code's affect on development and rewrite or amend

the code to help achieve the goals of *Imagine Austin* and the community. The Growth Concept Map which includes activity centers and corridors as areas of targeted growth is an important part of the code rewrite. Form based code will be applied to these areas to encourage development that better accommodates many modes of transportation and a mix of uses. The smallest of the activity centers is a neighborhood center intended to include housing as well as commercial uses that support the surrounding uses. An ongoing dispute concerning the proposal to rezone an existing office park, Austin Oaks, located in a designated neighborhood center exposed competing ideas about the nature of these activity centers. In order to rewrite the code to support development that meets the goals of *Imagine Austin* (1) the neighborhood center must be more specifically defined and (2) the feasibility of new or redevelopment to occur in neighborhood centers must be evaluated. This paper will look at the former from the perspective of all neighborhood centers and the latter as it applies to Anderson Lane Station Neighborhood Center.

To further define the neighborhood center, this paper looks at other cities that have used similar activity center schemes in their comprehensive plans to supplement the definition provided by *Imagine Austin*. The result is a list of criteria for a neighborhood center. This current condition of Anderson Lane Station is evaluated against these criteria to identify gaps and what needs to be achieved through redevelopment. This informs the two scenarios developed to test the feasibility of redevelopment. Envision Tomorrow, a software tool that allows planners to model development feasibility and the impacts of different land use scenarios, is used in this paper to look the redevelopment of a portion of this neighborhood center at two different levels of density.

The results of these scenarios expose some barriers to redevelopment. Recommendations for addressing these barriers include regulations from other cities' land development codes that specifically address such barriers. The goal of these recommendations is to promote the development of a neighborhood center as defined by this paper by both reducing the cost of development and ensuring desired elements of urban design. More research is needed to look at other development issues such as traffic impacts and flood mitigation. Public input is an important part of the planning process and will also need to be incorporated into the application of new land development regulations. Scenarios such as those developed for this research could be used to frame discussion around how to translate the goals of Imagine Austin into development in neighborhood centers.

Chapter II: Background

PLANNING IN AUSTIN

Before the development of *Imagine Austin*, the city had not succeeded in a comprehensive planning process since the 1970s, which led to the adoption of the *Austin Tomorrow* plan in 1979. In the time between the adoption of *Austin Tomorrow* and *Imagine Austin*, the city's population grew by nearly 500,000 people as well as expanded its geographical boundaries through land annexation (U.S. Censis Bureau). As surrounding jurisdictions also continued to grow, the metropolitan area expanded rapidly. The creation of a new comprehensive plan for a large city is an intensive process. *Austin Tomorrow* had consumed most of the decade, and later attempts to make a new plan in the 1980s failed. In the 1990s the city decided to engage in neighborhood planning instead of creating a new comprehensive plan (Gregor). Neighborhood planning is an effective way to address specific needs of different neighborhoods and tackle planning issues at a smaller scale. Likewise, neighborhood planning can engage a more targeted group of community members. However, planning in a patchwork, neighborhood by neighborhood, does little to address citywide or region wide issues. Shared resources, infrastructure, and budgets, force planners to look at the larger scale and the interaction between sections of the city. While the *Austin Tomorrow* plan was updated and amended, the completion of *Imagine Austin* marked the first full effort to generate a new comprehensive plan. This plan came at a time when Austin experienced the effects of continued growth such as traffic and housing shortages, leading to increased prices. As economic prosperity strains the city's

resources, *Imagine Austin* takes a look at how and where the city will absorb future population and job growth.

IMAGINE AUSTIN

The comprehensive plan, *Imagine Austin*, is an extensive document covering many areas of planning and issues facing the city and local government. A major element of the plan is the growth concept map, which furthers the goals of making Austin "compact and connected" (Imagine Austin 96). The map identifies areas to target for population and job growth over the next 30 years. A myriad of existing plans, inventory of resources and public input were integrated to create one succinct map which identifies activity centers and corridors to absorb growth.

One element of creating the final Growth Concept map was engaging the public in an exercise to determine how and where the city should absorb new growth. This exercise includes placing physical chips on a map to identify where added populations and jobs should go, and the results were later imported into GIS to map and the results were quantified. An important takeaway from this process is the change in density that would occur in the city. The exercise projected that about 80% of added population and jobs between 2009 and 2039 would occur within the city limits and the rest in the city's surrounding extra territorial jurisdiction (ETJ). In terms of residents, this would add 610,120 to the City of Austin and raises the gross density from 4.1 persons/acre to 7.2 persons/acre (A-37). This nearly doubling of density represents a significant increase. As the plan notes, Austin in 2009 is similar in density to other auto-dominated cities in Texas

(A-37). Gross density is calculated by dividing the total population by the total number of acres within the cities jurisdictional boundaries. It does not tell the entire story of what will happen on the ground. In existing fully developed single family neighborhoods, density can only be added at small increments. Unless household size increased dramatically, people/acre would not see much of an increase. This means that the areas identified to absorb growth would need to be exceeding 7.1 people/acre to reach the target gross density for the city. Other considerations that may affect actual density include undeveloped land, open space, environmental sensitivities and land that is unsuitable for residential development.

Many other considerations beyond the chip exercise led to the final Growth Concept map. Environmental constraints can reduce the carrying capacity of certain areas. Road, transit, and urban trails (bicycle and pedestrian), both existing and planned were included. Activity centers not only need to add population and jobs; they need to be connected to each other. Existing plans for Downtown, the East Riverside corridor, and the North Burnet Gateway as well as the many neighborhood plans influenced the final map. Land availability was another important factor. In the end, as many maps and plans were layered onto each other, the result was a map of forty-seven job, regional, town and neighborhood centers, connected by present and planned transportation systems.

The centers differ by both size and function. Job centers are targeted at industries that are incompatible with residential uses. Some activity centers are located in the Edwards Aquifer recharge zone and should be carefully redeveloped. All other centers are mixed use, intended to be "dense hubs" amongst their surroundings (204). These include

regional, town, and neighborhood centers which decrease in scale accordingly. Each is aiming to serve a smaller geography as they decrease in size. Regional centers include the most density with low to high rise residential and office buildings as well as culture, retail and entertainment that draws people from throughout the region. Downtown, the University of Texas and West Campus are examples of existing regional centers. Town centers will have low to midrise buildings, and still have large employers with regional customers and employees, but less than regional centers. They will have more low density housing, such as single family, duplexes and town homes. Neighborhood Centers--the smallest of the activity centers--are intended to be concentrated around one or two intersections. The commercial development in neighborhood centers (including retail and office) should be locally focused. This includes grocery stores, medical offices, schools, and restaurants, ideally serving the immediately surrounding neighborhoods (107).

In the growth concept map, many of the centers are marked by a circle on the map. The boundaries of the centers have not been defined, and realistically boundaries of activity centers can be somewhat fluid. Some centers however, do have a more definite shape on the map, such as Downtown, North Burnet/Gateway, and Mueller. These areas are developed or planned to be developed more or less consistently with the plan's goals for them as a center. But for many centers, development has yet to occur, or redevelopment will be needed to achieve the goals of the comprehensive plan. The plan acknowledges that not all activity centers will be the same. Each center type has a target range of jobs and residents it will house. These number ranges are wide, and the locational boundaries for these counts are unclear. Given the number of regional, town, and neighborhood centers

they could house anywhere from 330,000 to 710,000 residents and provide 120,000 to 450,000 jobs. Other language suggests that centers will be different depending on "location and character" or "localized conditions" (104-105). It is certainly appropriate that a comprehensive plan not be overly prescriptive. However, ambiguity can lead to competing views on how these centers should look.

COMPETING IDEAS ABOUT NEIGHBORHOOD CENTERS

This paper focuses on the neighborhood center identified as "Anderson Lane Station," a possible location for a future Lone Star Rail skip/stop station (Lone Star Rail District). This area already has many qualities of a neighborhood center. Because of its location at the intersection of a highway, MoPac, and major thoroughfare, Anderson Lane, this center is divided into segments. This paper will look at redevelopment possibilities for the area east of MoPac. On the west side of the highway, the attempt to rezone and redevelop a 12 building office park, has brought opposition from surrounding neighborhoods. The developer applied for Planned Unit Development (PUD) zoning, for the 31-acre site currently known as Austin Oaks. PUD zoning is intended to offer larger developments more flexibility in design and create superior development beyond what is allowed under current code regulations (Planned Unit Development). The initial application included a mix of residential, retail, and office uses, and included a 17 story building along the highway (Application for Zoning 14-2014-0120). This proposal received immediate backlash from the surrounding neighborhood. A major concern was the added traffic generated by new development. This area of the city is not well supported

by transportation modes beyond automobiles. Other concerns of neighbors included the impact on surrounding schools by adding residences (Austin Oaks Proposed PUD).

As the developer's agent and representatives of the neighborhood began arguing for or against the new development, an interesting debate emerged. There was disagreement about whether the proposal was in line with *Imagine Austin*'s vision of a neighborhood center. Both sides used *Imagine Austin* to support their side of the argument. The Drenner Group, who acted as the developer's agent at the time, argued that the development met the comprehensive plan's vision for a neighborhood center, and the rezone would be a "test of Imagine Austin" (Hawkins and Novak). James Duncan, a planning professional and resident described the proposed development as closer to a Regional Center as described in *Imagine Austin* (Duncan).

The existing office park did not meet the neighborhood center's goals of being mixed use since it did not include residences. However, there are apartments directly south of the Austin Oaks office park, and commercial uses that serve the neighborhood further west along Spicewood Springs (Anderson Ln becomes Spicewood Springs on the west side of MoPac). According to *Imagine Austin*:

> "A neighborhood center may be focused on a dense, mixed-use core surrounded by a mix of housing. In other instances, new or redevelopment may occur incrementally and concentrate people and activities along several blocks or around one or two intersections." (Imagine Austin 105)

The proposed development could be perceived as this "dense mixed use core." The existing office buildings also exceed the description of commercial uses of a neighborhood center;

general office that is not oriented to a neighborhood service is not mentioned in the description of these centers. But a mixed use redevelopment could help incorporate elements of a neighborhood center missing from the existing office park. However, the scale of the proposed development appears similar to a regional center; the proposed building height is only found in Austin's other regional centers, such as Downtown.

This area is fully developed and any change will only occur through redevelopment. Because development is not starting from a blank parcel, existing conditions must be considered. While other neighborhood centers may not include quite as much office space, this area is being retrofitted. The negotiations between the neighborhood associations and representatives remain ongoing. In January, the developer sponsored a charrette, so that the neighborhood could participate and give input into the components of a new development. While it is difficult to build consensus among residents about their ideas for a neighborhood center, the charrette resulted in a plan that included residences, restaurants, retail, etc. This conflict pertaining to the Austin Oaks PUD proved that implementing the goals of a neighborhood center will have unique challenges in areas that are facing the pressures of redevelopment.

ADOPTING A HYBRID CODE

The city is currently in the process of revising the land development code through an initiative called CodeNEXT. The current code was adopted in 1984 and follows the typical Euclidean zoning which separates zoning districts by uses (Opticos Design 8). Building height, setbacks and FAR are also regulated by this type of zoning. Over time,

overlays known as combining districts have been added to the original base zoning districts to implement a wide range of regulation from environmental protections to incorporating neighborhood plans into the code to enabling vertical mixed use development. For example, a parcel zoned MF3-CO-NCCD would have to abide by all regulations in regards to the Multi-Family Residence Medium Density (MF3) base zoning. In addition, the property would be subject to a Conditional Overlay (CO) which may put further restrictions on use or site development and the Neighborhood Conservation Combining District (NCCD) which protects neighborhoods through further regulations in accordance with neighborhood plans (Base Zoning Districts). Zoning districts that are more flexible and do not necessarily separate uses such as Planned Unit Development (PUD), Transit Oriented Development (TOD), and other special districts have also been created. In the end the current code is complex with more than 400 combinations of base and combining districts "making [the code] so convoluted that is virtually unusable" (Opticos Design 10).

The complexity of the code has not only led to inefficiencies with its administration, but also has affected the quality of development built in Austin. The code promotes auto-centric environments through high off-street parking requirements, and low density development (13). This can prohibit the feasibility of infill development on smaller parcels. Parking requirements are based on the number of units in residential development or square feet in commercial development. Because adding square feet of building space also requires more square feet of off street parking, this limits the total building density on any particular site. Structured parking can reduce the footprint of parking in larger projects, however, at considerably higher cost. Another rigidity of the current code is that it allows

only certain types of residential development. Barriers make it hard to develop any housing between low density single family and large multi-family complexes. Minimum lot size on multi-family development encourages garden style apartments that are suitable for less developed suburban areas (60). Some infill tools have been developed to allow for homes on smaller lots or secondary apartments, but these tools are not applied uniformly and are often only available at the discretion of the neighborhood planning areas (58). As a result, regulations limit the feasibility of duplexes, townhomes, and apartments under 10 units which are ideal for infill development. This combined with minimum site area and parking requirements are also driving up the cost of building housing (56). The current code has also been found to serve as a barrier to many of the goals outlined by *Imagine Austin*. All of these considerations have been identified by the CodeNEXT team in order to inform the revised land development code.

The new code will be a hybrid-code meaning that conventional zoning will be incorporated into a form based code. Form Based Code (FBC) differs from current zoning mainly because it dictates the form and mass of buildings in relation to the street and each other. This is intended to create predictable building forms and a better public realm by regulating the relationship between building facades and public space (Form-Base Code Defined). In most instances, FBC requires buildings to locate on the front of lots creating a continuous pedestrian-friendly street edge. FBC also encourages a mix of uses, diverging from the conventional separation of uses seen in Euclidean zoning.

In 2011, Flagstaff Arizona went through a process similar to Austin's, which resulted in the adoption of a hybrid-code. The same consultants currently working on

Austin's code revision, Opticos Design, were used in Flagstaff, a city facing many of the same problems concerning code complexity. Hybrid codes have typically adopted FBC as the exception to conventional zoning, however Flagstaff did the opposite. The code defaults to "walkable urban" zoning while "drivable suburban" or conventional zoning is the exception (Eastman et al. 28). In a hybrid code, form based code is not applied to all areas of the city, so analysis must be done to determine the appropriateness of FBC for different sections of the city. According to Matthew Lewis, Assistant Director for the Planning and Zoning Department, form based code will be applied in areas designated by *Imagine Austin* as activity centers or activity corridors (Lewis).

Chapter III: Defining a Neighborhood Center

IMAGINE AUSTIN'S NEIGHBORHOOD CENTERS

The description of a neighborhood center in *Imagine Austin* lays out a few concrete criteria in terms of land use and transportation. First regarding land use, the neighborhood centers will be mixed use, and will include residential uses. Secondly, the commercial development will be more locally focused than the other, larger activity centers. This includes grocery stores, doctors' offices, shops, restaurants, schools, and services that generally serve the surrounding neighborhood. This means commercial activities will not aim to draw residents from other parts of the city, served by their own neighborhood centers. Secondly, regarding transportation infrastructure, all activity centers are prescribed to be walkable, bikable and served by transit. While mixed use centers can be developed as pedestrian and bike friendly within their relative boundaries, not much is said about the connection to the neighborhood. The description of such centers as being supported by transit implies that the center will be connected to other parts of the city (Imagine Austin).

There are three processes described that pertain to how these centers may be developed. First, if the center is located at an existing shopping center, redevelopment should include the addition of housing. Therefore, if the center already includes the commercial requirements, housing can add to goals of being mixed use. Second, if a center is starting from scratch with new development, it will consist of a "mixed-use core surrounded by a mix of housing" (105). A mix of housing implies a variety including, renter and owner occupied as well as single and multifamily housing. Lastly, the plan

acknowledges that new and redevelopment will likely occur incrementally, but should "concentrate people or activities along several blocks or around one or two intersections" (106).

The final criteria given for a neighborhood center by *Imagine Austin* is the number of people and jobs that should be included in each type of activity center. Neighborhood centers are approximately 5,000 to 10,000 people with 2,500 to 7,000 jobs. These ranges are large and will depend highly on the types of jobs and housing provided by the center. Again, most neighborhood centers do not have defined boundaries, so the method of measuring jobs and residents is unclear.

Because *Imagine Austin* is a comprehensive plan, it has been described as a "30,000-foot view" of the city (Opticos Design 23). Some flexibility in the description of the centers will allow individual centers to adapt to their context and the realistic scope of redevelopment. However, vagueness leaves some gaps in terms of interpretation. Most centers do not have clear boundaries and are represented by abstract circles. Neighborhood centers cover roughly a half square mile. While an activity center will not have fluid boundaries as it connects to it surroundings, more land use planning must be done to define centers. The city is intending to move forward by completing small area plans, which will consolidate the former neighborhood planning process by looking at a group of neighborhoods. Areas will be prioritized based on upcoming infrastructure projects, development pressures, and the need to preserve affordability (Lewis). Areas that need clarification in further planning processes are building heights, target density, and how open space will be incorporated in to activity centers.

MODELS OF NEIGHBORHOOD DESIGN

In the book, *Urban Land Use Planning*, a "residential neighborhood unit" is described as fitting into a "constellation" of neighborhoods that are integrated into a community's plan (Berke et al. 383). The neighborhood begins with dwellings. Expanding beyond individual dwellings or clusters of dwelling brings us to the next level of residential habitat, which consists of three components: supporting uses, circulation system, and open space (386). Looking at many cities' descriptions of neighborhood centers we see these elements. In different models these elements are designed and integrated with one another in many styles, creating different types of neighborhood activity centers.

Two models of neighborhood development shaped existing neighborhoods and reflect the car's influence on urban design and development. Suburban development after WWII evolved from the original suburban master-planned community model, envisioned by landscape architect, Frederick Olmsted. This involved curvilinear streets with large front lawns that provide a majority of the open space for the neighborhood. These neighborhoods also rely on auto trips to access the local commercial services (383). This type of development proliferates to this day. It provides homogenous housing and a car dependent environment. A second model, the neighborhood unit, first developed by Clarence Perry in 1929, uses an interior open space network, independent of the street network, to provide residents access to commercial uses, schools, and recreation. The plan includes cul-de-sacs that serve the back of houses, which the front faced the shared open space. This neighborhood also only includes one housing type. The model is not auto-reliant within the community. The model relies on families with school age children living

in the houses to support the schools and other functions (390-391). While neither of the models reflect the goals of *Imagine Austin* and the many new development trends that embrace more housing and transportation mode diversity, it is important to understand them. These types of residential development are still being built. More importantly, understanding these models can help determine how to retrofit older neighborhoods built in this style to embrace new goals.

The above two models also do not necessarily centralize activity. The New Urbanist model draws from the traditional lay out of towns and cities in the 19th century, before automobiles. The basis for this model is streets organized in a grid around a core of activity to promote pedestrian choices. Other elements that promote walking are limited setbacks, bringing activity closer to the street and providing for more densely and mixed residential dwellings (391).

DRAWING FROM OTHER CITIES

Activity centers or nodes are outlined in many cities' plans as a way to absorb growth, or efficiently organize land use. Looking at these other city plans, we can begin to see the similarities that all centers share. Both Portland and Sacramento have more specificity than Austin in their comprehensive plans. Like Austin, these cities have populations that have and are continuing to grow rapidly (U.S. Census Bureau). According to recent population estimates Austin is the largest of the three cities, and has the lowest gross population density (American Community Survey). These figures only look at the incorporated city (versus the entire metropolitan area.) Including the entire metro would

show even lower overall densities due to the lower densities outside the city. If Austin is looking to increase its residential density, these other cities' comprehensive plans can provide some guidance on how to approach redevelopment.

City	Population	Land Area (square miles)	Density (people/square mile)
Austin	864,218	297	2,901
Portland	602, 568	133	4,516
Sacramento	476,075	98	4,862

Source: ACS 2014 5-year estimates

Table 3.1: Cities by Population and Density

Portland Neighborhood Centers

Similar to Austin, the Portland Comprehensive Plan describes centers of all size as places that are compact and pedestrian oriented and primary areas for growth. Neighborhood Center's, the smallest activity center in Portland's plan, should contain a mix of commercial and residential buildings. They should be more highly concentrated with more housing types than the surrounding neighborhood (Urban Design and Direction).

Other characteristics include:

- zoning accommodates 3500 households within a half a mile
- pedestrian and bike access connects to the neighborhood
- a small gathering space included in the center
- building height limited to four stories (with exceptions near the central city or high capacity transit stops)

These neighborhood centers are similar to Austin's with some more detail on building height, and the target households for the area. Another major difference is the inclusion of a gathering space.

Sacramento Suburban and Traditional Centers

Sacramento divided the smallest of its activity centers into two types, suburban and traditional. The application of these types depends on the age and form of the existing neighborhood. The suburban center describes new, more car oriented neighborhoods and the traditional center applies to older, more walkable neighborhoods. These two types share many elements including:

- 1-4 story buildings
- mix of uses including residential, retail, office, compatible public and quasi-public
- central public gathering space
- 15 to 36 dwellings per acre

Traditional centers have expected FARs (floor area ratios) of .3 -2, not exceeding 80% lot coverage, while suburban centers can be slightly less intense at .15 – 2 FAR, not exceeding 60% lot coverage. Suburban centers will redevelop to infill current parking lots, while bringing buildings to the front of lots and placing parking in the back. Traditional centers will have on street parking as well as shared side and rear parking, making use of the alley system already used in these neighborhoods (2035 General Plan).

CRITERIA FOR A NEIGHBORHOOD CENTER

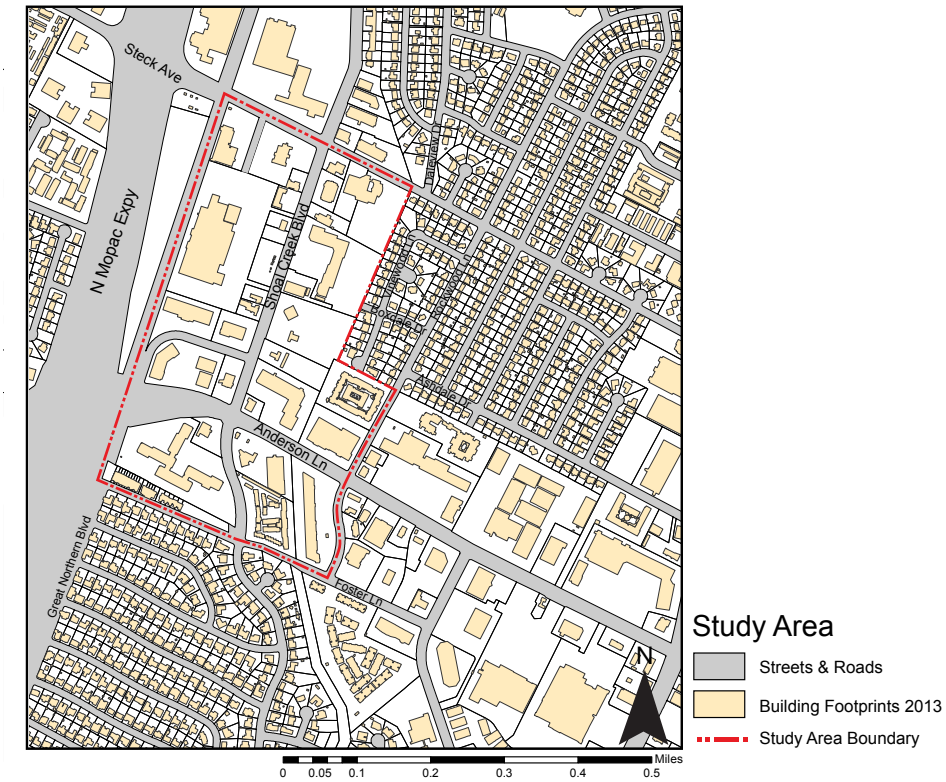
Based on *Imagine Austin*, traditional neighborhood models, and other cities' plans, the following criteria will be used to evaluate the scenarios developed for this paper.

1. Centralized activity with pedestrian, bike connections to the neighborhood and transit connections to other parts of the city.
2. Mixed-use including residential and commercial uses.
3. Residential development to include many housing types, with more variety than the surrounding neighborhood.
4. Commercial uses to serve the neighborhood including:
    - retail aimed at attracting customers from the surrounding neighborhood
    - medical office and other resident business services
    - restaurant
    - central public gathering green space or plaza
5. Building heights of one to four stories.

Chapter IV: Anderson Lane Existing Condition

PROFILE OF THE NEIGHBORHOOD

On the east side of MoPac highway, Anderson Lane serves as the divider between two neighborhoods with North Shoal Creek to the north and Allandale to the south. Neither neighborhood has an adopted neighborhood plan. These areas were in line to receive plans, but with the changing process, it is uncertain how and when that will move forward. The study area for this paper is bounded by Foster Lane to the south, Steck Avenue to the north, MoPac to the west, and Rockwood Ln and Shoal Creek (natural feature) to the east. The intersection of Anderson Lane and Shoal Creek Blvd is the focal point for the center.



Source: City of Austin GIS Data

Figure 4.1: Study Area Boundary

The following demographic information covers the northern section of the Allandale neighborhood and the entire North Shoal Creek neighborhood. This area extends one half to three quarters of a mile north, east and south of the study area, not extending west because of the highway barrier. This information is meant to give a general profile of the area and its residents.

2014 Estimates	Neighborhood	City of Austin
Population	6,102	864,218
Housing Units	3,307	373,473
Percentage of Owner-Occupied Units	50.1%	44.9%
Percentage of Single-Family Detached Units	48.1%	46.9%
Median Value of Owner-occupied units	$277,412	$227,800
Median Gross Rent	$880	$1,012
Median Household Income	$51,956	$71,230
Average Household Size	1.8	2.5
Percentage of Households with children (one or more person under 18)	16.1%	28.4%

Source: ACS 2014 5-year estimates

Table 4.1: Anderson Lane Neighborhood Demographics

Between 2009 and 2014 the area did not see a significant population increase or addition of housing units. In that time period median incomes and owner-occupied housing values did increased. Educational attainment of residents has increased as well as the number of people between 18 and 34 (American Community Survey). The smaller household sizes and fewer households with children may be due to either an increase of young people without children or empty nesters and retirees.

In terms of employment, the area has added jobs. Looking at the same area as above, between 2004 and 2014, 433 jobs have been added despite job losses during the recession (U.S. Census Bureau). The largest share of the 8,883 jobs in the area are in accommodation and food service (19%), followed by retail trade (18%) reflecting the neighborhood services this area primarily provides. While these industries have also added the most jobs, health care and social assistance, and professional and scientific and technical services have added about 500 jobs to the area in the last 10 years. Likewise, most jobs created pay over $40,000 annually while jobs paying less have been lost in the same time period (U.S. Census Bureau).

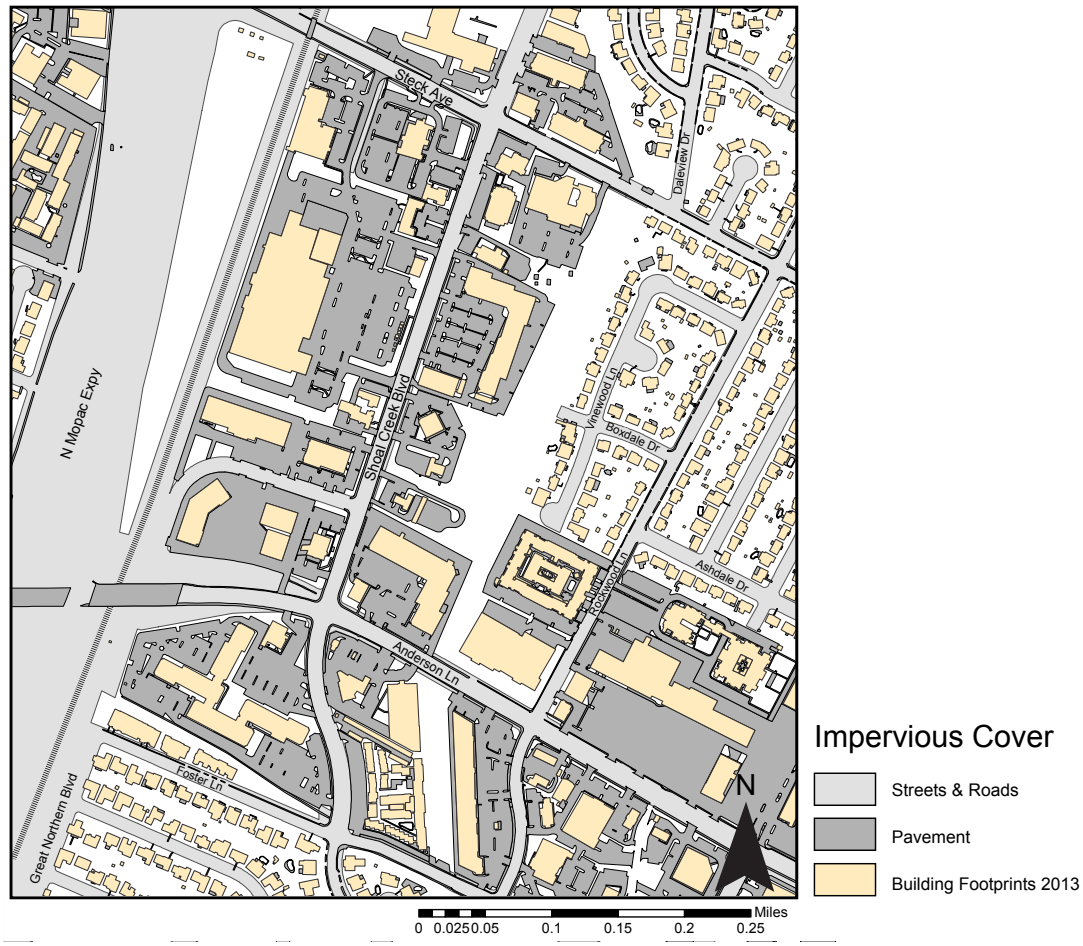
BUILT ENVIRONMENT

These neighborhoods are bounded by MoPac on the west and Burnet Road to the East. Shoal Creek, the natural water feature, and the road of the same name run through the center of these neighborhoods, with the road serving as the main north south route through the area. Shoal Creek Blvd is two lanes with stop signs and stop lights at major roads. While Burnet Road provides higher speed north south connection for cars, Shoal Creek Blvd has wide bike lanes and curves through the neighborhood following the creek line, has good tree cover, and is lined by single family houses. The single family houses in these neighborhoods were primarily built in the 1960s. The single family development pattern reflects the master-planned community model discussed previously. Deep setbacks give way to large front lawns and long driveways.

Sidewalks and bike lanes exist on Shoal Creek Blvd and other collector roads, but not on minor residential streets. Blocks are long, narrow and made up of two rows of houses with backyards backing up to one another and separated by fencing. The long block lengths, reaching and exceeding a quarter of a mile in many places, creates a pattern of street connectivity such that connections to commercial services are made longer, with little to no pedestrian connection. Commercial buildings are primarily strip development with deep parking lots. All of these urban design features create an extremely auto dependent environment.

Typical strip development along Shoal Creek Blvd.

Figure 4.2: 8015 Shoal Creek Boulevard

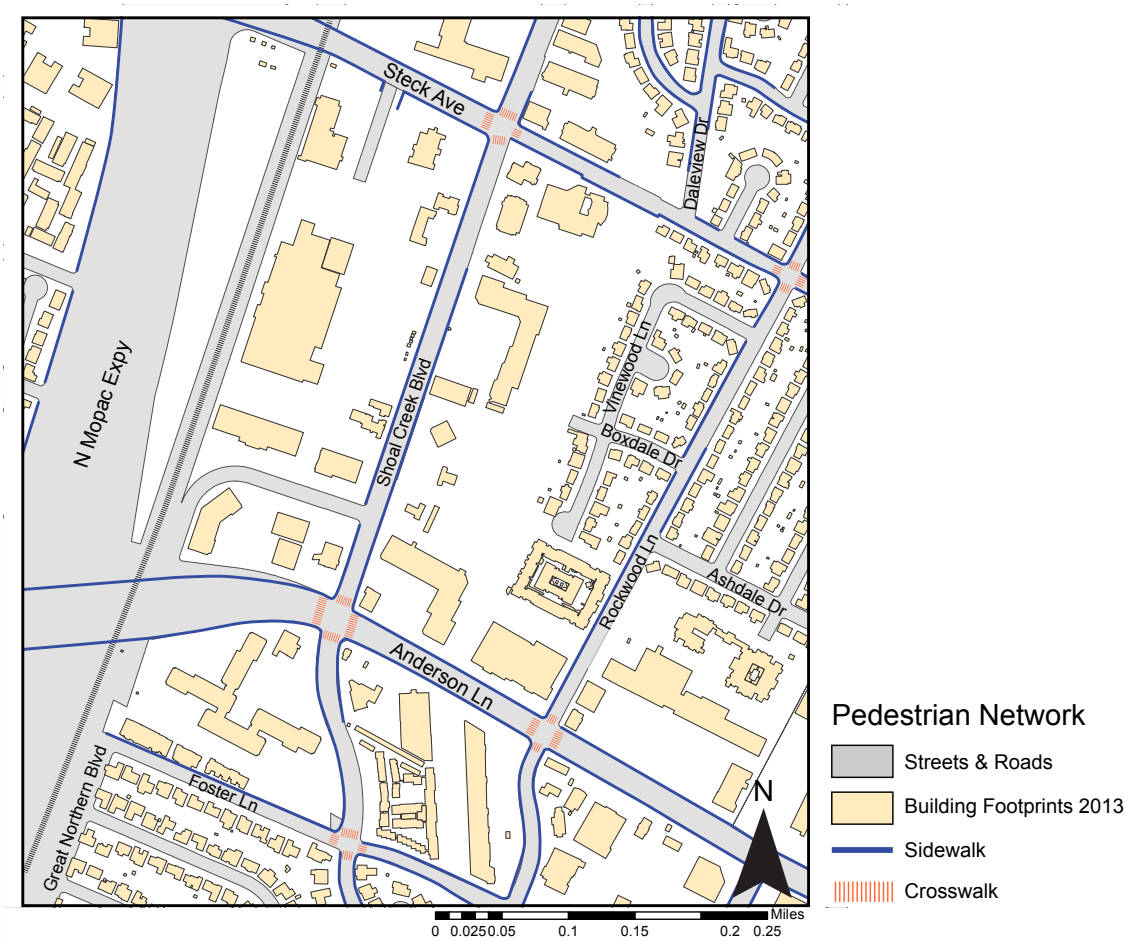


Source: City of Austin GIS Data

Figure 4.3: Impervious Cover

The Community Character Manual, created by the team developing Austin's new land development code, lays out characteristics of different places in Austin based on their built environment. These place types range from downtown, walkable urban, transitional, and drivable suburban. The Anderson Lane Neighborhood Center falls into the second transitional category outlined by the manual. This means street connectivity and intersection density fall between walkable urban with high connectivity and drivable suburban with low connectivity. This area also sees a transition from small multifamily

developments to larger ones. Just across the highway, including the Austin Oaks, development patterns become drivable suburban, making pedestrian, and bike connections more difficult (Community Character Manual).



Source: City of Austin GIS Data

Figure 4.4: Pedestrian Network

Anderson Lane and Steck Ave both provide connection to the highway and access roads. Shoal Creek Blvd runs between the two for nearly half a mile. The road is about 50 feet wide with two lanes in each direction and a turn lane. Fully serviced by narrow bike lanes, and almost fully served by sidewalks, the infrastructure is there for a complete street.

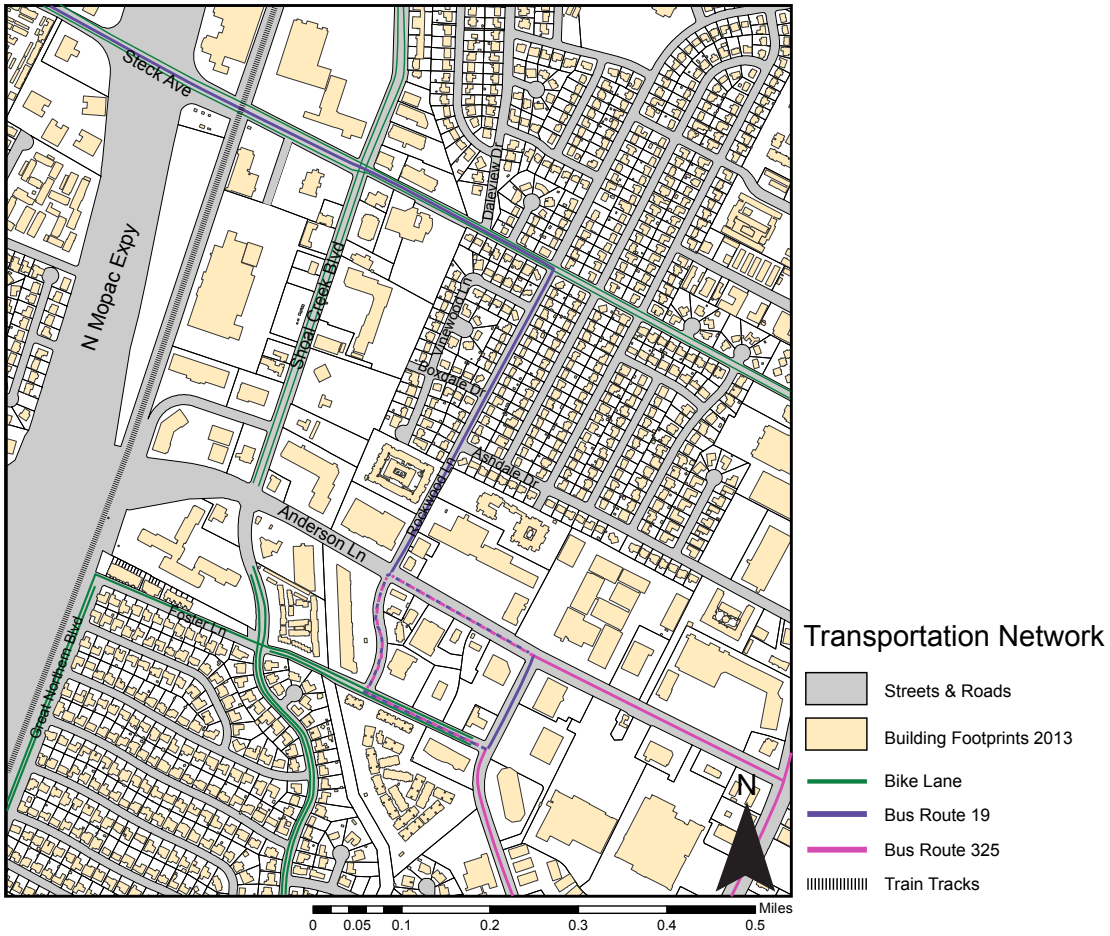
Trees along the sidewalks provide sporadic shade. However, beyond the landscaping along the sidewalks, there are deep parking lots, with the exception of four one story buildings along the street including a veterinarian, orthodontist, dentist and dermatologist's offices.

Shoal Creek Blvd looking south, taken from the southwest corner of the intersection of Steck Ave and Shoal Creek Blvd.

Figure 4.5: Shoal Creek Boulevard

Between Anderson Lane and Steck there are no intersection or crosswalks for pedestrians. Curb cuts and driveways provide access to parking lots for individual parcels. While the bike lanes provide a connection to the wider neighborhood, pedestrian connections do not allow for reasonable walking distances from most residential housing. The area is served by bus transit along Rockwood Ln. Bus Route 325 is a high frequency

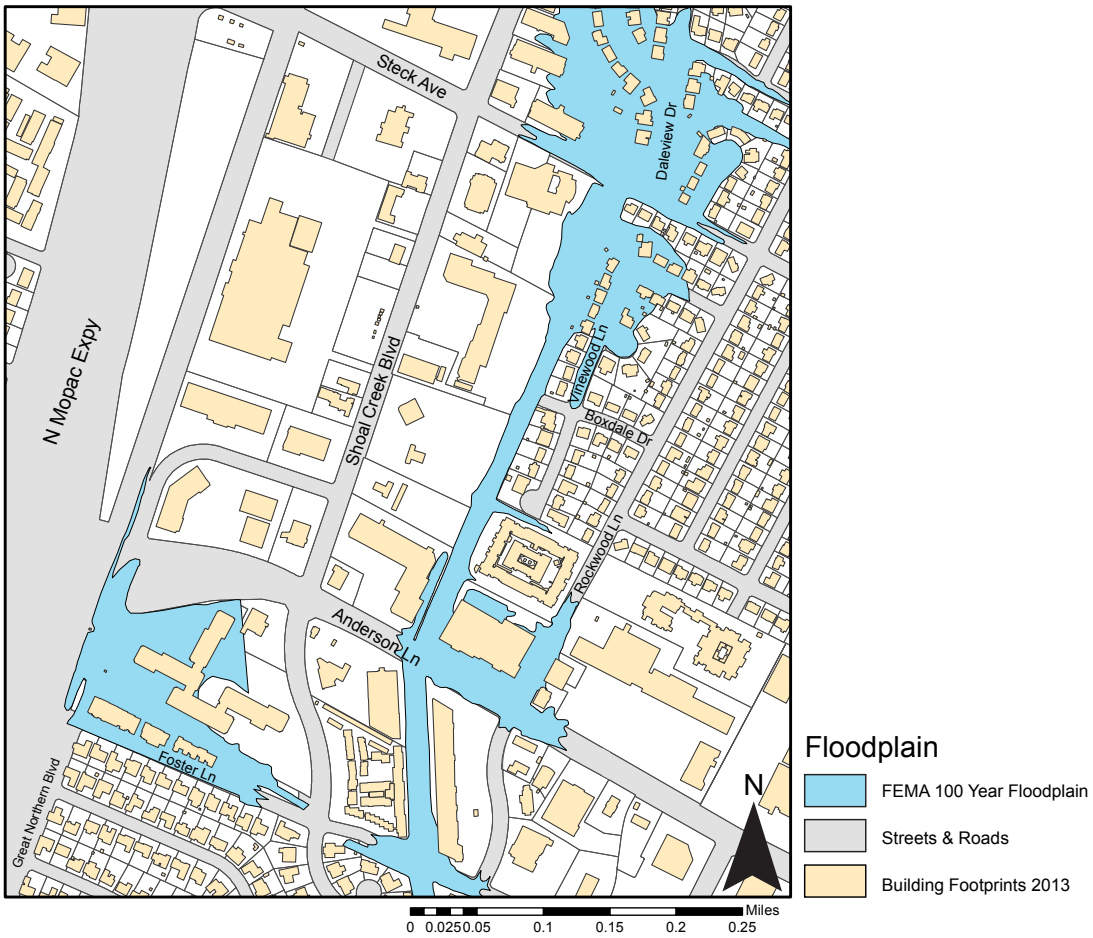
bus, coming at 15 minute intervals, providing connections to rapid bus routes running north and south and to service across the city to the east. In 2014, this route averaged 1,791 riders a day. Bus Route 19 is a regular frequency bus providing connections to the west of MoPac and downtown. On week days, frequency ranges from 35 minutes to an hour, and the line averaged 804 riders a day in 2014 (Capital Metro).



Source: City of Austin GIS Data

Figure 4.6: Transportation Network

Buildings to the east of Shoal Creek Blvd, back up to a floodplain along the creek which limits the ability to develop the entire depth of the parcels. The west side of Shoal Creek Blvd is mostly lined by shallow parcels, backed by deeper parcels backing up to the train tracks. There is mostly undeveloped land, with the exception of an Austin Energy facility, between the tracks and the highway access road.

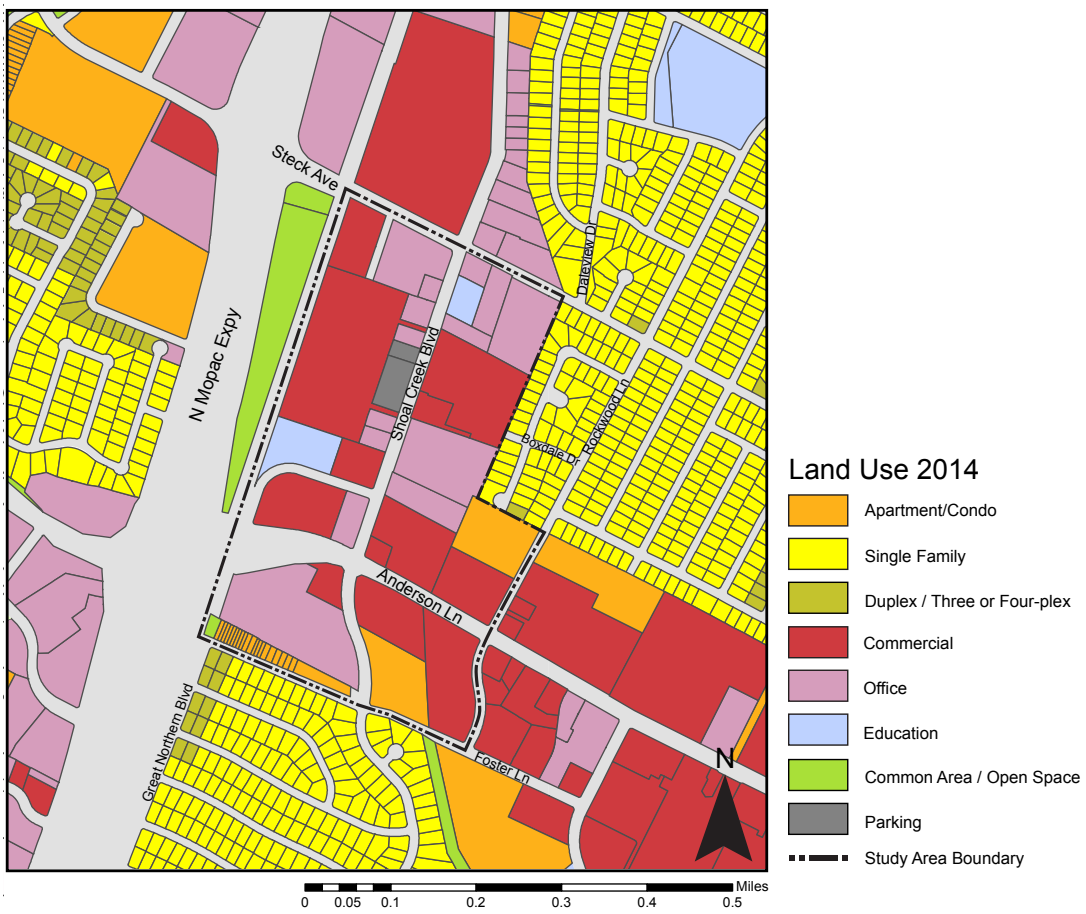


Source: City of Austin GIS Data, FEMA GIS Data

Figure 4.7: Floodplain

The following is a land use and zoning inventory of the area bounded by Foster Lane to the south, Steck Avenue to the north, MoPac to the west, and Rockwood Ln and

Shoal Creek to the east. The location of the neighborhood center is also at the terminus of an activity corridor along Anderson Lane. This provides more services, retail, and restaurants in driving distance, which affects the market for services in the area. Within the boundaries, there is a mix of retail, restaurants, a private school and day care center, general office and medical offices, residential townhomes and condominiums. A Lowe's Home Improvement also sits on the largest parcel consuming nearly 14 acres with building, parking and circulation for deliveries. The square feet and residential units dedicated to each use and current zoning can be seen in Table 4.2 and 4.3.



Source: City of Austin GIS Data

Figure 4.8: Land Use

Use	Square Feet of Building
Retail/Restaurant	330,959
General Office	229,741[1]
Medical Office	70,890[2]
School	47,129
Bank	69,236
Lowe's Home Improvement	135,401
Vacant	1,578
Condominiums	192 units
Townhomes	21 units

Source: City of Austin GIS Data

Table 4.2: Land Use in Study Area

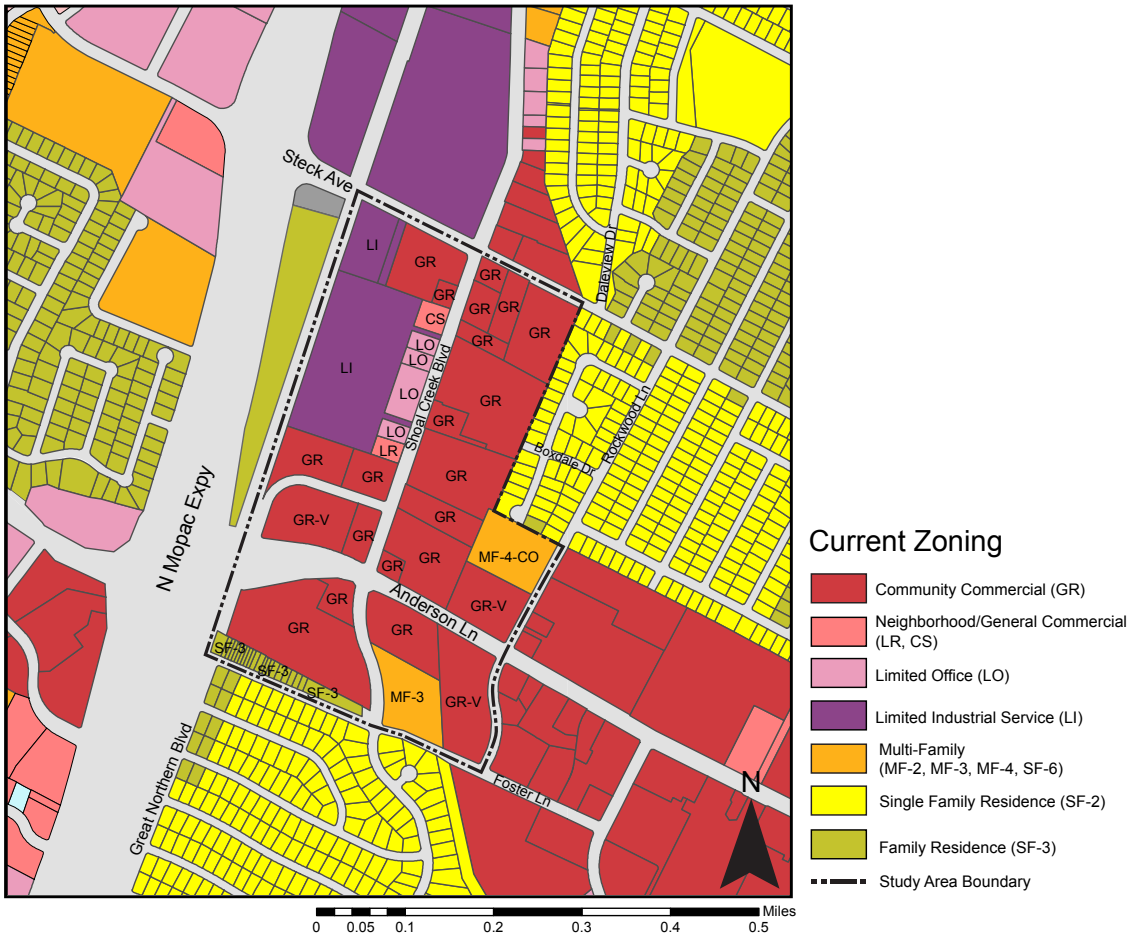
Zoning Category	Number of Parcels	Acres	Percentage of Land Area
Community Commercial (GR)	19	44.34	53.5%
Community Commercial with Vertical Mixed Use Overlay (GR-V)	3	11.51	13.9%
Neighborhood Commercial (LR)	1	0.48	0.6%
General Commercial Services (CS)	1	0.67	0.8%
Limited Office (LO)	4	2.51	3.0%
Limited Industrial Services (LI)	2	14.46	17.4%
Multi-Family Residence Medium Density (MF-3)	1	3.49	4.2%
Multi-Family Residence Moderate-High Density with Conditional Overlay (MF-4-CO)	1	3.55	4.3%
Family Residence (SF-3)	21	1.91	2.3%

Source: City of Austin GIS Data

Table 4.3: Zoning in Study Area

[1] For 8015 Shoal Creek which includes General and Medical Office, square footage of entire building split in half between the two categories.

[2] Includes Dentist, Veterinarian, Optometrists and similar services.



Source: City of Austin GIS Data

Figure 4.9: Zoning

EVALUATION OF EXISTING CONDITIONS

In this section, I compare the existing conditions to the criteria established for a neighborhood center above. The major criteria that need to be addressed include the addition of residential development and improved connectivity to the surrounding neighborhood. The following is an evaluation of how the current condition measures up against the criteria established previously.

Centralized activity with pedestrian, bike connections to the neighborhood and transit connections to other parts of the city.

Pedestrian connections to the surrounding housing are weak or non-existent due to street connectivity, block length and lack of sidewalks. The three multifamily properties and single family houses along collector roads (Shoal Creek Blvd to the south, Rockwood Ln, and Steck Ave) have almost continuous sidewalk connections to commercial services. Walking distances are still relatively long to destinations neighbors might want to reach. For example, from the nearest house on Shoal Creek Blvd, the closest restaurant is one-sixth of a mile. From Rockwood Ln and Steck Ave it is about a third of a mile. Most houses in the surrounding neighborhoods fall outside of a half mile, or comfortable 10-minute walking distance, to retail or restaurants, with incomplete sidewalk connections, and without a pedestrian friendly environment. This area is connected by bike lanes which are narrow and contain uneven surfaces and again, lack of street connectivity increases distances and forces the use of routes along busier roads. Bus service does connect the neighborhood to other parts of the city, however the center is not directly connected to the city's rapid bus or rail service, the higher capacity transit options in Austin.

Mixed-use including residential and commercial uses.

Uses in the neighborhood are separated reflecting the Euclidean zoning system. Multi-family residential is adjacent to single family housing in some instances serving as a buffer to commercial development. There are no buildings with both residential and commercial uses.

Residential development to include many housing types, with more variety than the surrounding neighborhood.

Owner-occupied townhomes and condominiums provide an alternative to single family housing, but there is not any exclusively renter occupied multi-family housing development in the immediate area.

Commercial uses to serve the neighborhood including: retail aimed at attracting customers from the surrounding neighborhood, medical office and other resident business services, restaurant, quasi-public including library, community services, central public gathering green space or plaza.

Much of the commercial development qualifies as neighborhood serving including restaurants, dry cleaners, banks, medical offices, and other retail. There is a concentration of medical offices which may rely on attracting a wider range of patients beyond the immediate neighborhood. Likewise, Lowe's Home Improvement is more of a regional retailer, serving an entire section of the city. This center also includes office buildings, which are outside of those included in the description of a neighborhood center. Anderson Lane Neighborhood Center is lacking a central public gathering space; a public space surrounded by compatible uses such as restaurant and retail, or edged by uses that support many people having access to the space or perceiving the space as a destination.

Building heights of one to four stories.

Buildings are mostly one story with some two and three story buildings.

To achieve the criteria of a variety of housing types, the redevelopment for this area should follow the *Imagine Austin* prescription for existing commercial areas to redevelop with the addition of housing (Imagine Austin 105). This can achieve goals of being mixed use as well as locating more residents close to neighborhood commercial services to increase pedestrian trips within the center. Infrastructure improvements are also needed to allow pedestrian connections of existing residents to commercial services.

In the dispute over the Austin Oaks PUD, increasing traffic was a major concern of existing residents. Providing for the possibility of better quality pedestrian trips is one way to mitigate increased automobile traffic due to the addition of density. Research done by Susan Handy on urban form and pedestrian choices in Austin found that the factor that most effects the choice to walk to a commercial destination is distance from the home. The perception of distances, which can differ from actual distance, plays an important role in the choice to walk. The quality of the pedestrian environment at the destination rather than around the home was found to be more influential on the choice to walk to the store (Handy). This suggests that with better pedestrian connectivity, residents of the currently auto-dominated residential patterns may choose to walk to the store more often. A gathering space can provide a pedestrian friendly destination as well as a place for community events. The following scenarios have been developed to tackle the gaps between the existing conditions and the criteria for a neighborhood center.

Chapter V: Redevelopment Scenarios

GOALS

Based on the previous analysis, the following scenarios are examined in order to assess how the study area can be transformed to better meet the criteria of a neighborhood center. The main goals of these redevelopment scenarios are to (1) add rental housing to both increase housing variety and create a mixed use environment (2) redevelop to support a central plaza or gathering space, (3) create pedestrian and bicycle access for existing and new residential areas. By meeting the goals of a neighborhood center, residents will have better access to commercial services as well as a place for community events.

Design decisions that were used to guide development of these scenarios include: (1) Locating any new residential development east of Shoal Creek Blvd adjacent to existing residential and away from the highway. (2) Using Shoal Creek Blvd as a main street due to existing infrastructure to create a complete street and the potential to enable a pedestrian friendly environment through form based code. The west side of Shoal Creek Blvd is lined with shallow lots and already has buildings that come close to the sidewalk with the parking in the back of on the side of the buildings. Because Anderson Ln and Steck Ave provide access to the highway, it would be difficult to create a main street environment on either street. (3) Providing a pedestrian bridge across the creek as an extension of Boxdale Drive to take advantage of the open space created by the floodplain and provide access for existing residents who would have to take much longer routes to reach commercial uses on

Shoal Creek Blvd. (4) Locating a plaza along Shoal Creek Blvd in a central location, maximizing access of existing and new residents.

SCENARIOS

Two scenarios, Low Density and High Density, were developed for this paper to explore the implications of redevelopment that meets the previously stated goals. The analysis includes both the number of potential residents and jobs that may be added as well as the financial feasibility of the new development. The main difference between the scenarios is the inclusion of structured parking. The current codes' parking standards were maintained and the Low Density scenario relies exclusively on surface parking which limits density. This scenario also does not include any buildings that have both commercial and residential uses, but includes multi-family adjacent to commercial uses. The High Density includes vertical mixed use buildings on larger lots which rely on structured parking and reach four stories in height. Both scenarios use the principles of New Urbanism to locate building facades along Shoal Creek Blvd and parking behind buildings. Some residential development faces the creek and green space created by the floodplain.

METHODOLOGY AND ENVISION TOMORROW

Envision Tomorrow is an open source software tool that can model feasibility of development as well as model land use scenarios at a regional scale. This paper will primarily look at the site specific redevelopment feasibility for a portion of the 83-acre study area in order to evaluate the goals and design decisions mentioned above. Using the

prototype builder, the user can control certain physical and financial inputs into an excel workbook. Then based on the size and cost of the site, outputs are generated including square feet of each use, number of housing units and jobs potentially created by the development, and return on investment for the developer. The results of these calculations are dependent on the assumptions made by the user when inputting parameters. However, if the same assumptions are used for multiple scenarios, the user is able to compare options to one another.

Physical inputs allow the user to define building use and size as well as other site conditions. Zoning regulations can be applied to building prototypes through these inputs including impervious cover limits, maximum building height, minimum parking requirements and FAR. Based on these inputs and the parcel size, Envision Tomorrow calculates the maximum building footprint and calculates the gross and net square feet of potential development. Detailed information about the specific building prototypes used in the following analysis can be found in the appendix.

The following financial inputs were used for this analysis. Envision Tomorrow uses a standard pro forma to calculate the Return on Investment to a developer or investor. The three inputs manipulated in this exercise were land cost, cost of construction, and income generated from rent or sale. Land cost was determined by taking the appraised value of land and improvements and multiplying by 1.2, to reflect market rates. This adjustment is made because Texas is a nondisclosure state, meaning sales prices of real estate are not required by law to be disclosed to the public. This has led to undervaluation of commercial properties by appraisal districts because of insufficient data about market prices (Theis).

Average rents were taken from a report published by Transwestern regarding rental rates in different parts of the Austin metro area for the last quarter of 2015. Rates for Central Austin were used on a square foot basis for Class A apartments, assuming new units and for a triple net lease on office and retail. To determine cost of construction, 2012 RS Means data was used and adjusted for inflation to reflect 2016 values. The following table shows the construction cost and rent inputs used in the models. Envision Tomorrow defaults were used for cost of surface parking which is $3,000 per space. The same RS Means data used for construction cost was used to determine the cost per structured parking space, which is set at $15,000 per space.

Use	Construction Cost (per square foot)	Rental Rate (per square foot)
Retail	$91.00	$16.50 annually
Office	$128.00	$27.00 annually
Residential (1 – 3 Floors)	$92.00	$2.00 monthly
Residential (4 Floors)	$108.00	$2.00 monthly

Source: Transwestern 2015, RS Means 2012

Table 5.1: Financial Inputs

LOW DENSITY SCENARIO RESULTS

The low density development scenario explores using the principles of form based code to bring building facades up to the street edge, while relocating parking to the back of parcels. The design also organizes building facades around a new pedestrian-only street halfway between Anderson Ln and Steck Ave. Density is kept lower because only surface

parking was used for this scenario and parking minimums from the current code were maintained.

This diagram shows the location and type of development used for this scenario in relation to existing development.

Figure 5.1: Low Density Scenario Diagram

Three types of buildings were used in this scenario, none exceeding two stories. One story office and retail space was added along the west side of Shoal Creek Blvd to take advantage of existing office along the road and to create a more continuous pedestrian experience. These two parcels are currently serving as additional parking for Lowe's. Along the east side of Shoal Creek, low rise office and retail space replaces existing office space. Low rise residential apartments were also added to increase the mix of uses and add residents within walking distance of new commercial services. The following table shows the results of the scenario.

	Existing	Redevelopment	Net Addition	New Jobs/Residents
Office	84,281	87,603	3,322	11 jobs[3]
Retail	0	87,603	87,603	110 jobs[4]
Residential	0	170	170	238 residents[5]

Table 5.2: Low Density Scenario Results

The amount of current office space is supplemented with the addition of retail space. The difference between office and retail is relatively flexible. Much of the office space in the area provides medical, or other services that require customers to visit in person, like retail. Retail can also be used as food services and restaurant. Parking requirements for both uses are the same, so the main difference in these models is cost per square foot and the number of jobs anticipated by development. Therefore, in the building

[3] Assuming 1 job per 300 square feet.
[4] Assuming 1 job per 800 square feet.
[5] Assuming 1.5 residents per unit.

prototypes, office and retail were each assigned half of commercial space to provide an average.

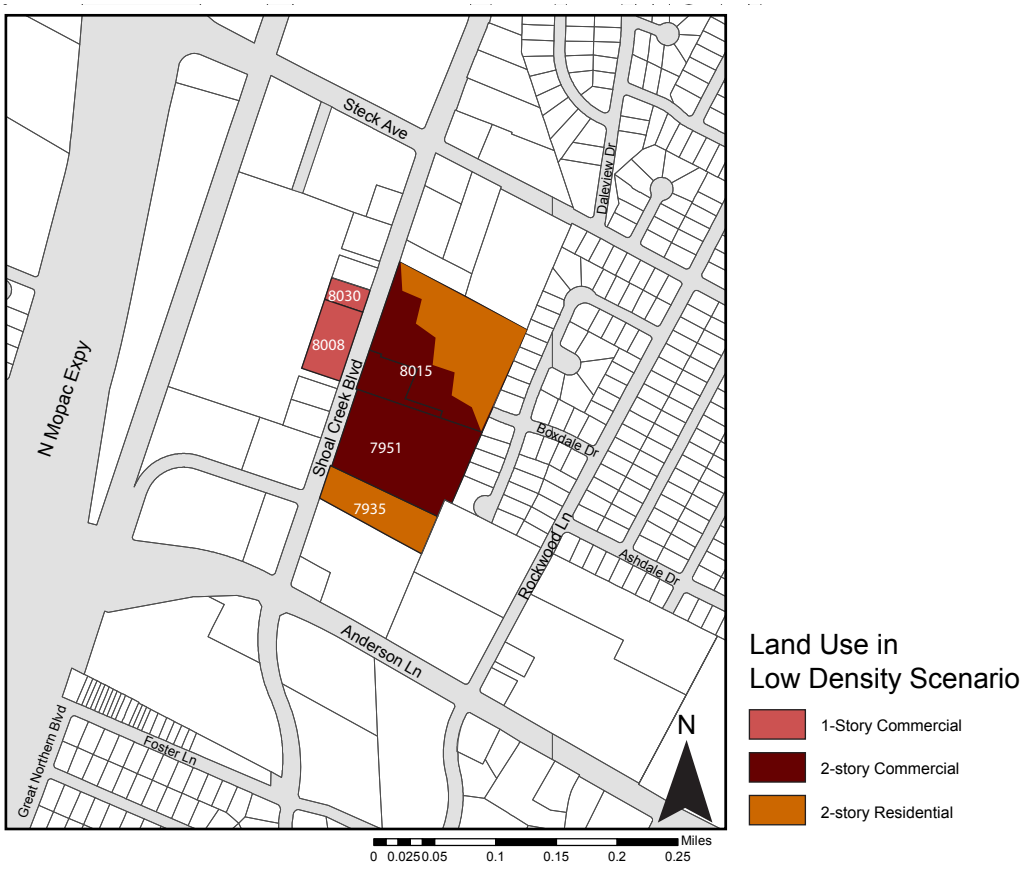


Figure 5.2: Low Density Scenario Land Use

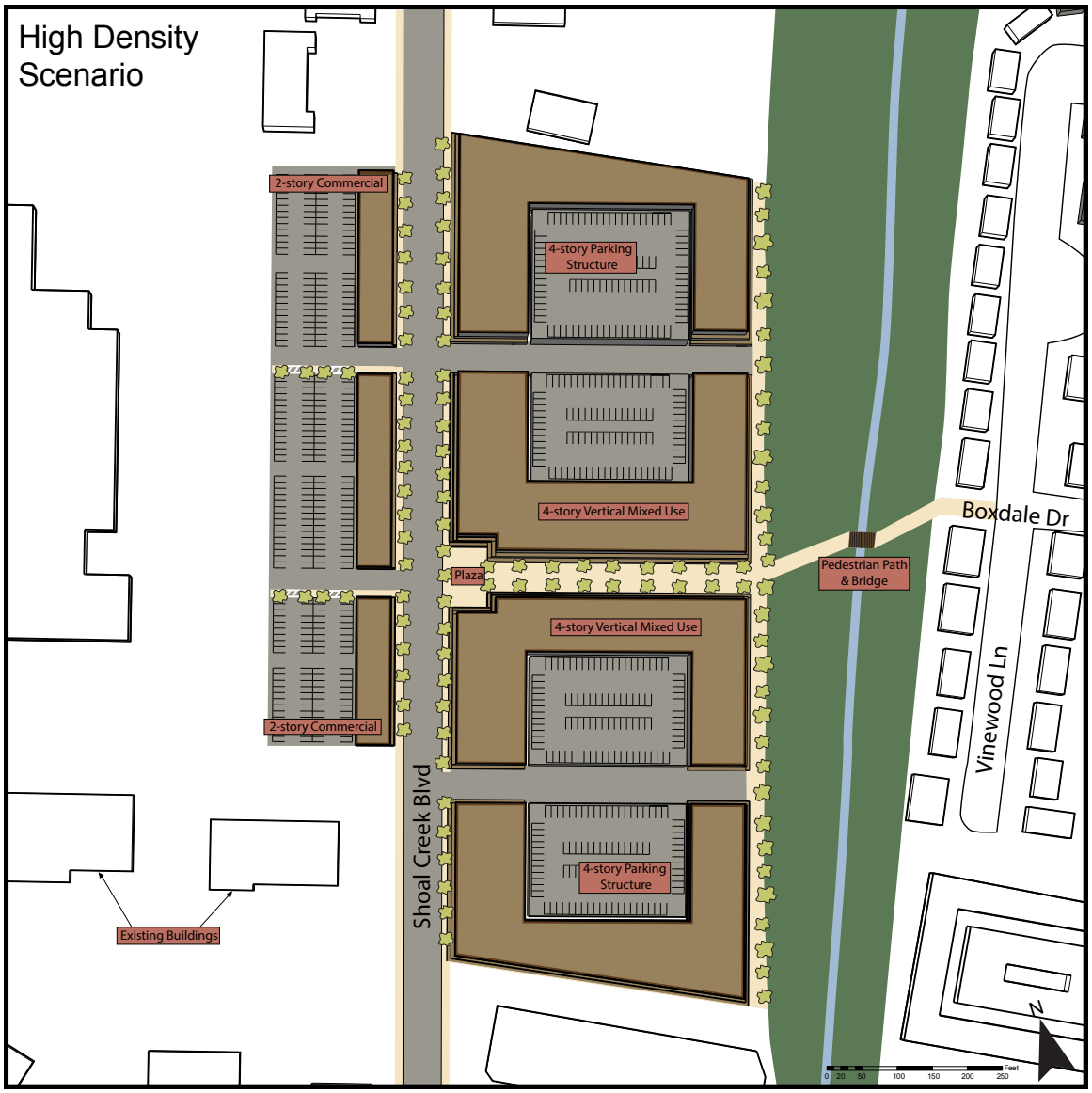
Address	Building Type	ROI	Land Cost (per sf)
8008/8030 Shoal Creek Blvd	Commercial (1-story)	10.1%	$26.00
7951 Shoal Creek Blvd	Commercial (2-story)	12.9%	$14.00
7935 Shoal Creek Blvd	Residential (2-story)	15.7%	$16.00
8015 Shoal Creek Blvd	Commercial (2-story)	8.9%	$33.00
8015 Shoal Creek Blvd	Residential (2-story)	12.7%	$33.00

Source: Travis County Appraisal District, 2015

Table 5.3: Low Density Scenario Financial Performance

The cost of land has a great effect on the financial feasibility of each development. Both 7951 and 8015 Shoal Creek have the same building prototype. When the land cost is more than doubled the return on investment reduced by 4% which could keep a project from moving forward. Currently both 7951 and 7935 Shoal Creek Blvd have land values appraised higher than improvement values, making these parcels more likely to be redeveloped.

HIGH DENSITY SCENARIO RESULTS



This diagram shows the location and type of development used for this scenario in relation to existing development.

Figure 5.3: High Density Scenario Diagram

The high density development scenario incorporated many of the same elements as the previous scenario but at a higher intensity. Large parcels are used for vertical mixed

use development with structured parking. Former one-story offices on the west side of Shoal Creek Blvd are redeveloped as two story retail and office buildings. The floodplain provides a significant setback from the back of the parcel. This achieves both current compatibility requirements which restrict building height near single family housing and provides a green space for residents of new multi-family development. Parking was reduced by 40% for the office and retail in the mixed use development per Austin's current allowance on vertical mixed use development. This scenario adds more than 5 times as many jobs and twice as many residents as the Low Density scenario.

	Existing	Redevelopment	Net Addition	New Jobs & Residents
Office	96,159 sf	190,014 sf	93,855 sf	313 jobs[6]
Retail	0	190,014 sf	190,014 sf	317 jobs[7]
Residential	0	444 units	444 units	666 residents[8]

Table 5.4: High Density Scenario Results

The cost of land has a greater effect on the profitability of the project depending on the size of the project. As can be seen in Table 5.5, for the four 2-story commercial projects, the return on investment's volatility is more dependent on the land cost. These projects are relatively small and located on shallow parcels. The larger mixed use projects do not see a great difference in return even with a doubling of land cost. As compared to the low density scenario, adding density to 8008/8030 Shoal Creek Blvd and 8015 Shoal Creek Blvd increased the return on investment. However, the inclusion of structured parking also

[6] Assuming 1 job per 200 square feet.
[7] Assuming 1 job per 800 square feet.
[8] Assuming 1.5 residents per unit.

decreases returns significantly on 7935 and 7951 Shoal Creek Blvd significantly from the first to second scenario.

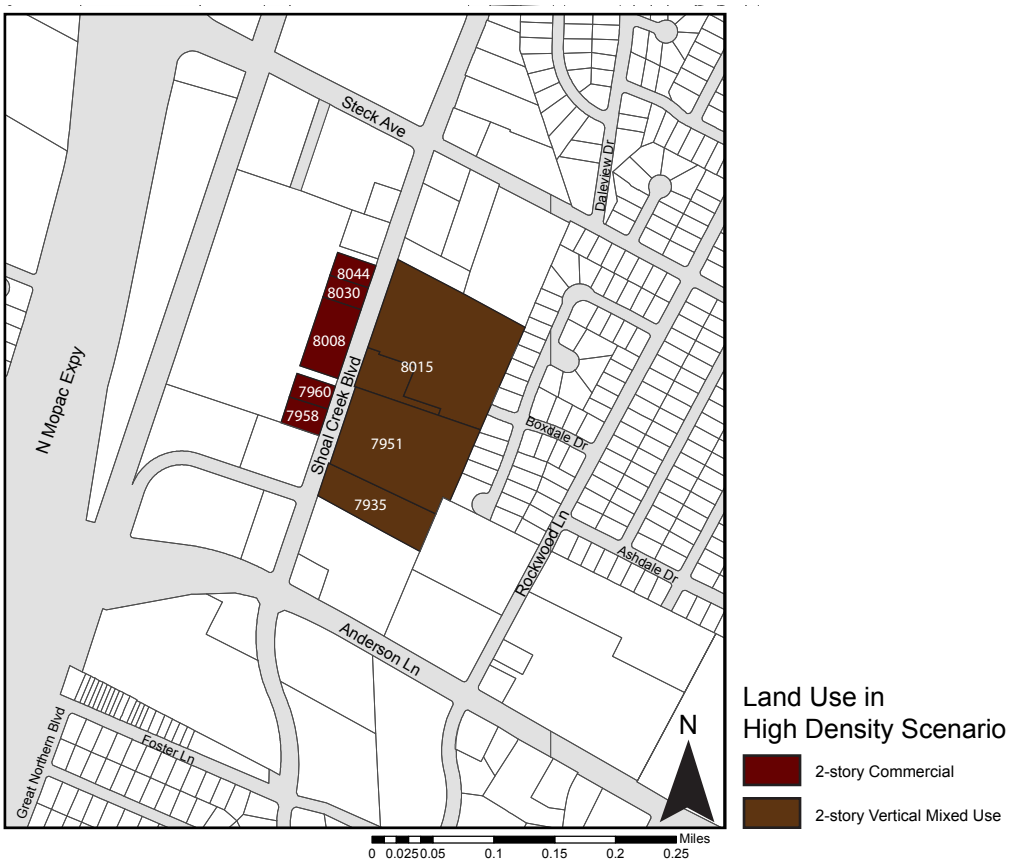


Figure 5.4: High Density Scenario Land Use

Address	Building Type	ROI	Land Cost (per sf)
8008/8030 Shoal Creek Blvd	Commercial (2-story)	11.5%	$26.00
7958 Shoal Creek Blvd	Commercial (2-story)	7.6%	$58.00
7960 Shoal Creek Blvd	Commercial (2-story)	10.7%	$30.00
8044 Shoal Creek Blvd	Commercial (2-story)	10.2%	$34.00
7935/7951 Shoal Creek Blvd	Mixed-Use (4-story)	12.8%	$15.00
8015 Shoal Creek Blvd	Mixed-Use (4-story)	11.8%	$33.00

Source: Travis County Appraisal District, 2015

Table 5.5: High Density Scenario Financial Performance

Overall the building prototypes in this scenario are not performing well with all but one under the target 12% return on investment. The inputs used for this exercise are providing better returns on residential development, however more research would need to be done to evaluate if the market for residential in this area is in fact more profitable than commercial development.

EVALUATION OF SCENARIOS

While these redevelopment scenarios help achieve the criteria of a neighborhood center, there are many barriers to the realization of such development. Not only is public investment required to improve pedestrian, bicycle and transit access, private developers must have a financial incentive to redevelop. Comparing the scenarios to each other, lower density redevelopment is more feasible overall. However, on parcels with higher land cost, adding density increases returns on investment. Land cost include the value of the buildings on that land. On all parcels except 7935 and 7951 Shoal Creek Blvd, the buildings are worth more than the land they sit on, making redevelopment less likely. Looking to the future, as buildings age or land values increase, development on these parcels may be more attractive to developers. Therefore, while planning for the future it is important to look at regulations' effects on the cost of development.

Returns on investment (ROI) are low for shallow lots along the west side of Shoal Creek Blvd making redevelopment less likely. Looking at the possible redevelopment of 7960 Shoal Creek Blvd, redevelopment from the current one story office building to a two story office building could triple the building size. However, the return on investment is

less than 12%. Under current zoning, building height can be increased on this parcel to 3 floors, but due to the space needed for parking, the building space would not increase much between 2 and 3 floors. Looking at alternatives, reducing parking requirements would increase ROI by more, almost reaching 12%. Unless these smaller lots were combined and a part of a larger redevelopment, achieving main street commercial development along the street is unlikely.

7960 Shoal Creek Blvd	Square Feet	Floors	Parking Requirement	Return on Investment
Current	2,449	1		
2-story	9,321	2	1 space per 250 sf	10.7%
2-story (reduced parking)	11,316	2	1 space for 333 sf	11.9%
3-story	10,336	3	1 space per 250 sf	11.2%

Table 5.6: Development Alternatives

Larger parcels provide the opportunity for mixed use development. If these properties are developed comprehensively with internal streets, block lengths can be reduced, providing a friendly pedestrian environment. Also, large projects can justify structured parking, which will allow the neighborhood center to significantly increase density. The Austin Oaks PUD proposal includes parking structures suggesting there is a market for development of this intensity in the area.

The need for parking drives up the cost of development and typically consumes more land area than buildings do. A national study investigating the cost of minimum parking requirements found that above ground parking structures can increase the cost of shopping center development by 67% (Shoup 87). Because of these high costs, developers

are often incentivized to use surface parking where land costs are low enough (93). If structured parking cannot be justified, redevelopment in the area will be limited to the low density scenario. In this case, density could only be increased incrementally by reducing parking minimums.

Reducing parking minimums regulation does not guarantee that less parking will be built. Developments need to provide enough parking to residents and customers, and may not reduce parking below demand. Ultimately, improving residents' access to commercial services is necessary to reduce the demand for parking. Current zoning does not allow for additional residential development in the Anderson Lane neighborhood center. Mixed use development is vital to achieving the goals of a neighborhood center. Anderson Lane can better meet the criteria of a neighborhood center through different levels of density. Moving forward, it is important to make sure regulations do not unnecessarily increase the cost of development, and that they incentivize walkable mixed use development.

Chapter VI: Recommendations

Regulation Recommendations

In writing the new land development code, Austin can look at how other cities have implemented ordinances to promote compact, walkable, and mixed use development. Form-based code plays a big role in creating a pedestrian friendly environment. When implementing a hybrid code in Flagstaff, Arizona, consultants found that they needed to provide "carrots" or incentives for developers to use the form based code in instances where it was optional (Eastman et al. 30). Another code innovation in Flagstaff was allowing mixed use development by right to walkable development and development that is less reliant on automobile trips (29). In most cases parking minimums under the form based code require fewer spots than the general parking minimums.

Better public transit access can justify parking reductions, however, other strategies could decrease the amount of parking needed for this area. In the current development along Anderson Lane, each building has its own parking lot without any connections between parcels. The ability to share parking could reduce the total parking spaces needed. Businesses that have different peak hours such as an office and a restaurant can share parking. New parking requirements can be determined by calculating parking needs by time period (Forinash et al. 7). Montgomery County, Maryland uses a shared parking ordinance for mixed use developments under the same owner. Based on five different time periods, office and retail uses were assigned the percentage of minimum parking requirements needed during that time. Office uses are expected to use 100% of their

parking requirements during the day on weekdays, while retail uses 100% during the day on weekends. In one example from Montgomery County, peak parking occurred during the daytime on weekends, but required only 74% of the spaces required if the standard regulations were applied to the mixed use development (Metropolitan Area Planning Council). If new developments can incorporate both office and retail, which is already occurring to a small degree, then a shared parking regulation could help lower the cost of these projects. If the parking requirement is reduced by 25% for the commercial buildings models in this project, return on investment increases by an average of1.2%.

Reversing the trends of Euclidean zoning and allowing for more mixed use development is also important to support the goals of a neighborhood center. In Grass Valley, California, a Neighborhood Center-Flex (NC-Flex) zone was created to "allow for well-designed residential and commercial infill that would support the viability of the Neighborhood Centers" (FBC, 243). This zoning category serves as a transition between Neighborhood Center (NC), which allows more commercial uses and higher density, and Neighborhood General (NG) which allows for primarily residential uses and is lower density. The NC-Flex zone allows the broader uses of the Neighborhood Center with the more restrictive building form of Neighborhood General (Parolek et al. 240-248). The adoption of this kind of zoning category can support the mixed use centers in Austin and allow for infill development that serves as a buffer between single family residential housing and commercial centers. Allowing for mixed use development can also be more sensitive to the needs of the market and build the uses most in demand.

A land development code can also address the issues of long block lengths which can decrease street connectivity and increase walking distances for pedestrians. Regulations on block length are typically applied to projects on two or more acres, which would affect the larger lots along Shoal Creek Blvd. Typical regulations can include limiting block lengths to 500 feet and block perimeters to 1,600 feet (62). Also, streets must connect to existing streets off site, and cul-de-sacs are not allowed unless there are physical conditions that offer no practical alternative (63). The diagrams for the scenarios in this paper show development that could occur under these regulations.

Providing a public gathering space increases the viability of a neighborhood center as a destination for residents. Currently, Austin's density bonus program for downtown grants additional building space in exchange for the inclusion of an accessible on site plaza. Outside of downtown the Parkland Dedication Ordinance requires new housing development to provide land for parks or pay a fee-in-lieu of land. In the CodeNEXT prescription paper on the natural and built environment, there is a suggestion to extend parkland dedication to private outdoor spaces that are "designed and designated for active public use" (Natural and Built Environment Code Prescription). Standards that are developed for these spaces should include and prioritize plazas in neighborhood centers near compatible uses such as restaurant and retail. In San Francisco, privately-owned public open space (POPOS) is required for developments in downtown commercial districts (San Francisco Planning Department). A similar ordinance could require such spaces in designated activity centers in Austin.

CONCLUSION

Land development code regulations must balance the task of protecting the health and safety of the community with not unnecessarily driving up the cost of development. Form based code is intended to create a predictable building form, providing for "better development patterns and individual projects" (Parolek et al. 4). In Austin, the type of development that form based codes create has been predominantly achieved through Planned Unit Development (PUD), Vertical Mixed Use (VMU), Transit Oriented Development (TOD) and other zoning categories not oriented to a single use. These developments include the Domain, Mueller, and Midtown Commons. These are larger master planned developments and the same tools are not necessarily provided to smaller redevelopment projects. Form based code can achieve predictable and walkable development patterns in activity centers over time as individual parcels are redeveloped.

The redevelopment of any particular parcel is subject to many factors including land cost, value of existing buildings, market demand, parcel size, environmental constraints, regulations, and more. In order for the new land development code to ensure a predictable built environment, attention must be paid to the financial implications of regulations. In the potential development modeled for this paper, land costs and parking requirements are driving up the cost of development, particularly on shallow parcels. The floodplain reduces the buildable acreage on larger lots, but can also provide for open space and a pedestrian network for current and future residents. This paper looks at the redevelopment potential at one point in time. However, the inputs used for these models are not static, and planning should anticipate future needs and redevelopment potential.

Further research should focus on traffic impacts of adding density, the effect of reducing parking requirements, and the environmental impacts of new development on the floodplain. The scenarios proposed in this paper also would require the City of Austin to make substantial infrastructure investments to connect existing housing units to commercial areas and create a complete street along Shoal Creek Blvd. Public participation is required to evaluate the desire for these improvements. Likewise, new regulations will need to be tested and receive public input as well. As the CodeNEXT process continues, it is important that collaboration continues between city staff, stakeholders, consultants, and the community. Neighborhood centers are intended to serve the surrounding neighborhood. A successful center will enhance residents' experience of their neighborhood by providing convenient access to services as well as a place for recreation and community events.

Appendix

The following inputs were used for Envision tomorrow building prototypes in this analysis:

Site Area: Total square footage of the parcel available for developments.

Landscaping: This indicates the percentage of the site that will be pervious cover. This number can also be manipulated to allow for setbacks and areas of the site unsuitable for development.

Site net-to-gross ratio: Expressed as a percentage, this figure is reduced from 100% for larger sites that need internal circulation.

Building height (stories): Building height in number of floors rather than feet.

Under-build: Expressed as a percentage, this represents the reduction of density based on building design or upper level setbacks.

Building Uses: The percentage of each building type is dedicated to each use.

Parking Requirements: The number of parking spots per residential unit or in relation to square feet of commercial uses.

Parking Type: Determines Surface or structured parking. For structured parking the number of levels under or above ground can also be entered.

Parking Layout: The choice of parking layout determines the square feet required per parking space.

Average Residential Unit Size: For the following building prototypes the following unit size and mix was used to determine this parameter.

Unit Type	Square Feet	Parking Requirement	Share
Studio	600	1	20%
1 bedroom	800	1.5	45%
2 bedroom	1000	2	35%
Average	830	1.6	

Low Density Scenario Building Prototypes

1-story Commercial	
Landscaping	10%
Sit net-to-gross ratio	100%
Building Height	1
Under-build	95%
Building Uses	Retail: 50% Office: 50%
Parking Requirements	1 per 250 sf
Parking Type	Surface
Parking Layout	Urban Perpendicular, 315 sf per space

2-Story Commercial	
Landscaping	25% (due to floodplain)
Sit net-to-gross ratio	95%
Building Height	2
Under-build	95%
Building Uses	Retail: 50% Office: 50%
Parking Requirements	1 per 250 sf
Parking Type	Surface
Parking Layout	Urban Perpendicular, 315 sf per space

2-story Residential	
Landscaping	25% (due to floodplain)
Site net-to-gross ratio	95%
Building Height	2
Under-build	95%
Building Uses	Multifamily (Renter)
Average Unit Size	830 sf
Parking Requirements	1.6 Space Per Unit
Parking Type	Surface
Parking Layout	Urban Perpendicular, 315 sf per space

Low Density Scenario Results

8008/8030 Shoal Creek Blvd	
Building Prototype	1-story Commercial
Site Area	72,700 (1.67 acres)
Site Layout	Building Footprint: 40% Parking: 50%
Gross Square Feet	27,505
Parking Spaces	110
ROI	10.1%
Change in rent to achieve 12% ROI	16%

8015 Shoal Creek (half of parcel)	
Building Prototype	2-Story Commercial
Site Area	160,300 sf (3.68 acres)
Site Layout	Building Footprint: 22% Parking: 53%
Gross Square Feet	63,938
Parking Spaces	256
ROI	8.9%
Change in rent to achieve 12% ROI	28%

7951 Shoal Creek	
Building Prototype	2-Story Commercial
Site Area	210,000 sf (4.82 acres)
Site Layout	Building Footprint: 22% Parking: 53%
Gross Square Feet	83,762
Parking Spaces	335
ROI	12.9%
Change in rent to achieve 12% ROI	-6%

8015 Shoal Creek (half of parcel)	
Building Prototype	2-story Residential
Site Area	160,300 sf (3.68 acres)
Site Layout	Building Footprint: 38% Parking: 37%
Number of Units	112
Parking Spaces	180
ROI	12.7%
Change in rent to achieve 12% ROI	-4%

7935 Shoal Creek	
Building Prototype	2-story Residential
Site Area	82,500 sf (1,89 acres)
Site Layout	Building Footprint: 38% Parking: 37%
Number of Units	58
Parking Spaces	92
ROI	15.7%
Change in rent to achieve 12% ROI	-20%

High Density Scenario Building Prototypes

2-Story Commercial	
Landscaping	10%
Site net-to-gross ratio	100%
Building Height	2
Under-build	95%
Building Uses	Retail: 50% Office: 50%
Parking Requirements	1 per 250 sf
Parking Type	Surface
Parking Layout	Urban Perpendicular, 315 sf per space

4-story Vertical Mixed Use	
Landscaping	25% (due to floodplain)
Site net-to-gross ratio	90%
Building Height	4
Under-build	90%
Building Uses	Multifamily: 70% Office: 15% Retail: 15%
Average Unit Size	830 sf
Parking Requirements	1.6 space per residential unit 1 space per 417 sf of commercial
Parking Type	Structured, 4 story
Parking Layout	Structured, 260 sf per space

High Density Scenario Results

8008/8030 Shoal Creek Blvd	
Building Prototype	2-story Commercial
Site Area	72,700 (1.67 acres)
Site Layout	Building Footprint: 27% Parking: 63%
Gross Square Feet	36,628
Parking Spaces	147
ROI	11.5%
Change in rent to achieve 12% ROI	4%

7958 Shoal Creek Blvd	
Building Prototype	2-story Commercial
Site Area	20,600 (.47 acres)
Site Layout	Building Footprint: 27% Parking: 63%
Gross Square Feet	10,379
Parking Spaces	42
ROI	7.6%
Change in rent to achieve 12% ROI	41%

7960 Shoal Creek Blvd	
Building Prototype	2-story Commercial
Site Area	18,500 (.47 acres)
Site Layout	Building Footprint: 27% Parking: 63%
Gross Square Feet	9,321
Parking Spaces	37
ROI	10.7%
Change in rent to achieve 12% ROI	11%

8044 Shoal Creek Blvd	
Building Prototype	2-story Commercial
Site Area	18,000 (.41 acres)
Site Layout	Building Footprint: 27% Parking: 63%
Gross Square Feet	9,069
Parking Spaces	36
ROI	10.2%
Change in rent to achieve 12% ROI	15%

8015 Shoal Creek Blvd	
Building Prototype	4-story Vertical Mixed Use
Site Area	320,600 (7.36 acres)
Site Layout	Building Footprint: 52% Parking: 23%
Gross Square Feet Commercial	164,490
Number of residential units	389
Parking Spaces	1,012
ROI	11.8%
Change in rent to achieve 12% ROI	2%

7951/7935 Shoal Creek Blvd	
Building Prototype	4-story Vertical Mixed Use
Site Area	292,600 (6.72 acres)
Site Layout	Building Footprint: 52% Parking: 23%
Gross Square Feet Commercial	150,140
Number of residential units	355
Parking Spaces	924
ROI	12.8%
Change in rent to achieve 12% ROI	5%

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